

# Rise in lower extremity injuries possible result of new concussion prevention rules

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NCAA tackling rule changes that penalize head to head contact, and encourage tackling of the lower extremity have had some proven impacts in collegiate football. However, according to researchers presenting their work at the American Orthopaedic Society for Sports Medicine's (AOSSM) Specialty Day, an unintended consequence of these rule changes may be higher rates of knee, ankle and thigh injuries.

"Nearly a third of all concussions in collegiate athletics occur during football. With the relatively recent rule changes, concussion rates have not decreased. Our analysis of the NCAA Injury Surveillance Database though noted increased rates of ankle and [knee injuries](#), which may result in osteoarthritis and disability issues later in life for these athletes," said lead author, Robert Westermann, MD from the University of Iowa. "Athletes may be making contact lower on the body, to avoid the head-to-head contact and thus stiffer game penalties."

Westermann and his team looked at the NCAA Injury Surveillance Database for 57 programs and compared injury rate ratios between 2009/10-2011/12 and after new rules to reduce head to head tackling between the 2012/13-2014/15 seasons. Lower extremity injuries (i.e. hip/groin, upper leg/thigh, knee, lower leg/Achilles, foot/toes) and sports-related concussions were examined. The data for the surveillance system is collected through program athletic trainers and physicians.

Overall, 2,400 lower extremity injuries were reported during those time periods, with the most occurring to the [knee](#) (33.6%) and ankle (28.6%).

Fifty-nine percent of the injuries were due to player contact. Non-contact/overuse injuries did not increase during the time studied.

"Our research is the first to report trends in injury patterns since "targeting" rule changes took effect. Continued surveillance to examine these trends, and a more in-depth examination of how targeting rule changes are impacting injuries both at the targeted site and at other parts of the body needs to be performed to prevent long-term health issues," said Westermann.

Provided by American Orthopaedic Society for Sports Medicine

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